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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,097	03/16/2005	Jun Kitakado	038440-0121	5828

22428 7590 10/16/2007
FOLEY AND LARDNER LLP
SUITE 500
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WASHINGTON, DC 20007

EXAMINER

AFSHAR, KAMRAN

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,097

Applicant(s)

KITAKADO, JUN

Examiner

Kamran Afshar, 571-272-7796

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/19/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/16/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1, 3, 5-12 in the reply filed on 09/19/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. This application contains Claims 2, 4, 13-16 (**group II**) drawn to an invention nonelected without traverse in the reply filed on 09/19/2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

3. Claims 9-10 are objected to because of the following informalities: Claims 9-10 recite word(s) "can selectively be". It is noted that any programmable machine **can be** programmed to operate the claimed invention. It is suggested that word(s) "can selectively be" be replaced by "is selectively". Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 5-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In accordance with the claimed language of claims 15 and 13 "A reception level display program", "a reception level adjusting program", which is directed to description or expression of the programs, which are not physical "things". They are neither computer components nor statutory processes. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized. In contrast, a claimed computer readable medium encoded with a computer program, i.e. instruction, is a computer element, which defines structural and functional

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interrelationships between computer program and the rest of computer, which permits the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 3, 5-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/779,622. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the claimed limitations recited in the present application are transparently found in the copending application 10/779,622 with obvious wording variations. Take an example of comparing claim 1 of pending application and claims 1 of copending application 10541420:

Pending Application 10/528097	Co-pending application 10/779,622
1. An adaptive array wireless terminal apparatus having a plurality of antennas (ANT#1, ANT#2), comprising: determining means for determining reception levels of signals of a plurality of streams received by respective ones of said plurality of antennas ; display means for displaying said determined reception levels of signals of said plurality of streams ; and	1. An adaptive array radio communication apparatus having a plurality of antennas , comprising: estimation means for estimating a correlation value between signals of a plurality of streams received at respective said plurality of antennas , display means for displaying said estimated correlation value between said signals of said plurality of streams , and antenna correlation

reception level adjusting means manually operated by a user for adjusting the reception levels of signals of said plurality of streams.	adjustment means for causing the correlation value between said signals of said plurality of streams to be altered manually by a user .
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Therefore, the limitations in copending Application No.: 10/779,622 encompassed in claimed limitation of the present invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshina (JP 20022135198 A1) in view of Admitted Prior Art (APA) further in view of Shigihara (U.S. Patent 5,966,186 A).

With respect to claims 1, 3, 5, Hoshina discloses an adaptive array (See Hoshina e.g. adaptive array antenna, Page 4, Line 1 of ¶ [0008]) wireless terminal apparatus (See Hoshina e.g. PDA, Page 4, Line 3 of [008]) having a plurality of antennas (See Hoshina e.g. antenna part 200 equipped with two or more antenna, Page 5, Lines 5-6 of [0014], plurality of antenna 200 as shown in Fig. 1), comprising: determining means for determining reception levels of signals (See Hoshina e.g. measurement part 109 measuring the reception level of signals, Page 3, Lines 5-8 ¶ [0003]); display means for displaying the determined reception levels of signals of said plurality of streams (See Hoshina display part 107 displays the reception level, Page 3, Lines 5-8 of ¶ [0003]). Further Hoshina discloses reception level adjusting means for adjusting the reception levels of signals (See Hoshina e.g. adaptive control part 202 adjust directivity, Page 5, Lines 1-3 of ¶ [0017], and Page 4, Lines Page 4, Lines 4-10 of ¶ [0009]) and the plurality of antennas (See Hoshina e.g. antenna part 200 equipped with two or more antenna, Page 5,

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Lines 5-6 of [0014], plurality of antenna 200 as shown in Fig. 1). However, Hoshina does not explicitly teach signals of a plurality of streams of received by respective ones of the plurality of antennas nor the reception level adjusting means manually operated by a user for adjusting the reception levels of signals of the plurality of streams or program causing a computer execute. In an analogous field of endeavor, on one hand, the APA teaches signals of a plurality of streams of received by respective ones of the plurality of antennas (See APA, e.g. terminal has a plurality of (for example, two) antennas and corresponding plurality of (two) RF receiving circuits, and signals of a plurality of streams received by respective antennas, Page 1, Lines 4-7 of ¶ [0009]). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of APA to Hoshina to provide a well known adaptive array processing (or determination, or measuring) that better reception characteristic can be attained when reception level difference among the plurality of antennas is smaller (See APA, Lines 1-3 of ¶ [0010]) and / or provide a system or a method presentation of a reception level is performed (or displayed) i.e. by the number of a bar showing the reception level is high, low or out of coverage area as suggested (See Hoshina e.g. Page 3, 6-10 of ¶ [0005]). Further, In an analogous field of endeavor, On the other hand, Shigihara discloses the concept of the antenna adjustment mode is a function by which the user specifies (or manually operated by a user) the control part (See Shigihara e.g. Co. 11, Lines 29-30) and program causing a computer execute (See Shigihara e.g. Receiving signal quality indication processing Routine (or a sequence of computer instructions) of Figs. 7, 9-11, 12). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Shigihara to Hoshina in view of APA to provide an antenna bearing adjustment mode to the user while observing the antenna level (or reception level) on the screen for determining (or confirming) the signal quality is sufficient or not as suggested by (See Shigihara e.g. Co. 12, Lines 63) and or adjusting directivity to so that the main beam of an adaptive array antenna turned to the specific direction to improve communication quality as suggested (See Hoshina e.g. Page 6, Lines 5-7 of ¶ [0021]).

Regarding claim 6, it is obvious that a numerical value indicating a reception level (See Shigihara e.g. the antenna level and digital signal quality are indicated with numerical values in a range of 0-20, Co. 9, Lines 37-39) of each of the signals (See Shigihara e.g. signals of a plurality, Co. 7, Line 47) of the

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plurality of streams (See APA, e.g. signals of a plurality of streams received by respective antennas, Page 1, Lines 4-7 of ¶ [0009] and Hoshina e.g. antenna part 200 equipped with two or more antenna, Page 5, Lines 5-6 of [0014], plurality of antenna 200 as shown in Fig. 1) is displayed (See Shigihara e.g. antenna level (or reception level) is displayed on the screen, Co. 4, Line 41 and / or Hoshina display part 107 displays the reception level, Page 3, Lines 5-8 of ¶ [0003]).

9. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshina, Admitted Prior Art (APA), Shigihara and further in view of Anderson (U.S. Patent 5,797,08 A).

Regarding claims 11-12, Hoshina, APA, and Shigihara teach everything as discussed above in the rejected claims 1, 3, and 5. However Hoshina, APA, and Shigihara are silent that causing the computer to further execute the step of automatically activating the determining step and display step or cause the computer to further execute the step of activating the determining step and the display step in response to a user instruction. As it is discussed above, Shigihara teaches the causing the computer (See Shigihara e.g. Microcomputer 15 of Fig. 1b) and the display step (See Shigihara e.g. 5 of Fig. 1b, Figs. 5-6, and the antenna adjustment mode is a function by which the user specifies (or manually operated by a user i.e. button 17 of Fig. 1b). In an analogous field of endeavor, Anderson teaches the step of automatically activating the determining step (See Anderson, control switch, or button to perform auto process, Fig. 4, Co. 5, Lines 35-38). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Anderson to Hoshina, APA, and Shigihara to provide a user interface automatic activation control option that continuously reads the received signal strength by the antenna and automatically and antenna alignment as suggested (See Anderson e.g. Co. 2, Lines 35-38, Co. 2, Lines 45-48).

10. Claims 7-8, 9-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshina, Admitted Prior Art (APA), Shigihara and further in view of Todd (U.S. Patent 6,035,182).

Regarding claims 7-8, 9-10, Hoshina, APA, and Shigihara teach everything as discussed above in the rejected claims 1, 3, and 5. However Hoshina, APA, and Shigihara are silent in the display step, any of numerical value indicative of the reception level of each of the signals of the plurality of streams, the difference value between each of the reception levels and the degree of magnitude of the difference

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value "can selectively be" displayed as display contents; determining the contents to be displayed in the display step, causing the computer to further execute the step, in accordance with prior designation by a user and / or periodically and successively switching the display contents to be displayed in the display step. In an analogous field of endeavor, Todd teaches the concept of any of numerical value indicative (See Todd e.g. 24, 22, 20 of Fig. 4, 48-50 of Fig. 5) of the reception level -54 dBm, -96dBm, -100 dBm of Fig. 6) of each of the signals of the plurality of streams (See Todd e.g. antenna streams 12, 210 of Fig. 9, , the difference value (See Todd e.g. High/Fair/low, Co. 5, Lines 30-32) between each of the reception levels (See Todd e.g. RSSI measurement for both link (i.e. antennas 12, 210), Co. 6, Lines 12-13) and the degree of magnitude (See Todd e.g. dBm RSSI range, Co. 4, Lines 50-53) of the difference value (See Todd e.g. determine high/low/fair of Fig. 7, 22 of Fig. 4) "can selectively be" displayed as display contents; determining the contents to be displayed in the display (See Todd e.g. determine high/low/fair, display high/low/fair of Fig. 7) step, causing the computer (See Todd e.g. DSP execute Viterbi algorithm, Co. 3, Lines 20-21) to further execute the step, in accordance with prior designation by a user (See Todd, keypad 94 of Fig. 2, 9, receiving inputs and which controls what appears on the display, Co.3, Lines 5-7) and / or periodically (See Todd e.g. microcontroller performs received RSSI values based on one second interval, Co. 4, Lines 5-7) or and successively switching the display contents to be displayed in the display step (See Todd e.g. displayer 16 (switches or changes) from High/Fair or Low of quality indicator 22 of Fig. 4). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Todd to Hoshina, APA, and Shigihara to provide a method or system or a program for determination of whether a High/Fair/Low link quality (or signal level or reception level) are measures based on the RSSI value and presented to a subscriber via a display indicator as suggested (See Todd e.g. Co. 5, Lines 30-32).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a) Toba (U.S. U.S. 6,907,276 B2).
 - b) Fulton (U.S. 7,133,446 B1).
 - c) Yamamoto (U.S. Pub. No.: 2006/0234653 A1).

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d) Nakao (U.S. Pub. No.: 2004/0235511 A1).

e) Deguchi (U.S. 6,151,515 A).

f) Otting (U.S. 5,486,843 A).

g) Kim (U.S. 6,393,307 B1).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Eng, George** can be reached @ (571) 272-3984. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kamran Afshar